

SEQUENCE LISTING

<110> TRIEBEL, FREDERIC

<120> MOLECULES BINDING TO GLU-PRO MOTIFS, THERAPEUTICAL COMPOSITIONS
CONTAINING THEM AND THEIR APPLICATIONS

<130> 1057-04

<140>

<141>

<150> PCT/IB02/04240

<151> 2002-09-17

<150> EP 01402406.1

<151> 2001-09-19

<160> 10

<170> PatentIn version 3.2

<210> 1

<211> 372

<212> PRT

<213> Homo sapiens

<220>

<221> PEPTIDE

<222> (1)..(372)

<223> LAP protein

<400> 1

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Met Arg Lys Leu Gln Lys Glu Arg Lys Val Phe Glu Lys Tyr Thr Thr
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Ala Ala Arg Thr Phe Pro Asp Lys Lys Glu Arg Glu Glu Ile Gln Thr
20           25           30

Leu Lys Gln Gln Ile Ala Asp Leu Arg Glu Asp Leu Lys Arg Lys Glu
35           40           45

Thr Lys Trp Ser Ser Thr His Ser Arg Leu Arg Ser Gln Ile Gln Met
50           55           60

Leu Val Arg Glu Asn Thr Asp Leu Arg Glu Glu Ile Lys Val Met Glu
65           70           75           80

Arg Phe Arg Leu Asp Ala Trp Lys Arg Ala Glu Ala Ile Glu Ser Ser
85           90           95

Leu Glu Val Glu Lys Lys Asp Lys Leu Ala Asn Thr Ser Val Arg Phe
100          105          110

Gln Asn Ser Gln Ile Ser Ser Gly Thr Gln Val Glu Lys Tyr Lys Lys
115          120          125

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Asn	Tyr	Leu	Pro	Met	Gln	Gly	Asn	Pro	Pro	Arg	Arg	Ser	Lys	Ser	Ala	
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Pro	Pro	Arg	Asp	Leu	Gly	Asn	Leu	Asp	Lys	Gly	Gln	Ala	Ala	Ser	Pro	
145					150					155					160	
Arg	Glu	Pro	Leu	Glu	Pro	Leu	Asn	Phe	Pro	Asp	Pro	Glu	Tyr	Lys	Glu	
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Glu	Glu	Glu	Asp	Gln	Asp	Ile	Gln	Gly	Glu	Ile	Ser	His	Pro	Asp	Gly	
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Lys	Val	Glu	Lys	Val	Tyr	Lys	Asn	Gly	Cys	Arg	Val	Ile	Leu	Phe	Pro	
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Thr	Phe	Phe	Asn	Gly	Asp	Val	Lys	Gln	Val	Met	Pro	Asp	Gln	Arg	Val	
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Ile	Tyr	Tyr	Tyr	Ala	Ala	Ala	Gln	Thr	Thr	His	Thr	Thr	Tyr	Pro	Glu	
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Gly	Leu	Glu	Val	Leu	His	Phe	Ser	Ser	Gly	Gln	Ile	Glu	Lys	His	Tyr	
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Pro	Asp	Gly	Arg	Lys	Glu	Ile	Thr	Phe	Pro	Asp	Gln	Thr	Val	Lys	Asn	
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Leu	Phe	Pro	Asp	Gly	Gln	Glu	Glu	Ser	Ile	Phe	Pro	Asp	Gly	Thr	Ile	
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Val	Arg	Val	Gln	Arg	Asp	Gly	Asn	Lys	Leu	Ile	Glu	Phe	Asn	Asn	Gly	
305					310					315					320	
Gln	Arg	Glu	Leu	His	Thr	Ala	Gln	Phe	Lys	Arg	Arg	Glu	Tyr	Pro	Asp	
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Gly	Thr	Val	Lys	Thr	Val	Tyr	Ala	Asn	Gly	His	Gln	Glu	Thr	Lys	Tyr	
		340						345					350			
Arg	Ser	Gly	Arg	Ile	Arg	Val	Lys	Asp	Lys	Glu	Gly	Asn	Val	Leu	Met	
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Asp	Thr	Glu	Leu													
		370														

<210> 2
 <211> 135
 <212> PRT
 <213> Homo sapiens

 <220>
 <221> PEPTIDE
 <222> (1)..(135)
 <223> COOH-terminal peptide from LAP protein

<400> 2

Gln Arg Val Ile Tyr Tyr Tyr Ala Ala Ala Gln Thr Thr His Thr Thr
 1 5 10 15

Tyr Pro Glu Gly Leu Glu Val Leu His Phe Ser Ser Gly Gln Ile Glu
 20 25 30

Lys His Tyr Pro Asp Gly Arg Lys Glu Ile Thr Phe Pro Asp Gln Thr
 35 40 45

Val Lys Asn Leu Phe Pro Asp Gly Gln Glu Glu Ser Ile Phe Pro Asp
 50 55 60

Gly Thr Ile Val Arg Val Gln Arg Asp Gly Asn Lys Leu Ile Glu Phe
 65 70 75 80

Asn Asn Gly Gln Arg Glu Leu His Thr Ala Gln Phe Lys Arg Arg Glu
 85 90 95

Tyr Pro Asp Gly Thr Val Lys Thr Val Tyr Ala Asn Gly His Gln Glu
 100 105 110

Thr Lys Tyr Arg Ser Gly Arg Ile Arg Val Lys Asp Lys Glu Gly Asn
 115 120 125

Val Leu Met Asp Thr Glu Leu
 130 135

<210> 3

<211> 18

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic amino
 acid motif sequence

<220>

<221> misc-feature

<222> (1)..(18)

<223> repeated EP motif

<220>

<221> misc-feature

<222> (1)..(18)

<223> corresponds to EP motifs from human LAG-3 protein

<400> 3

Glu Pro Glu Pro Glu Pro Glu Pro Glu Pro Glu Pro Glu Pro
 1 5 10 15

Glu Pro

<210> 4
 <211> 12
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic amino acid motif sequence

<220>
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 <222> (1)..(12)
 <223> repeated EP motif

<220>
 <221> misc-feature
 <222> (1)..(12)
 <223> corresponds to EP motifs from mLAG-3 protein.

<400> 4
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 1 5 10

<210> 5
 <211> 23
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic amino acid motif sequence

<220>
 <221> misc-feature
 <222> (1)..(23)
 <223> repeated EP motif

<220>
 <221> misc-feature
 <222> (1)..(23)
 <223> corresponds to EP motifs from PDGFR protein

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Pro Glu Pro Glu Leu Glu Gln
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<210> 6
 <211> 12
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic amino acid motif sequence

<220>
 <221> misc-feature
 <222> (1)..(12)
 <223> repeated EP motif

<220>
 <221> misc-feature
 <222> (1)..(12)
 <223> Corresponds to EP motifs from HS1 protein

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 1 5 10

<210> 7
 <211> 486
 <212> PRT
 <213> Homo sapiens

<400> 7
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 1 5 10 15
 Gln Gly Asp Asp Trp Asp Thr Asp Pro Asp Phe Val Asn Asp Ile Ser
 20 25 30
 Glu Lys Glu Gln Arg Trp Gly Ala Lys Thr Ile Glu Gly Ser Gly Arg
 35 40 45
 Thr Glu His Ile Asn Ile His Gln Leu Arg Asn Lys Val Ser Glu Glu
 50 55 60
 His Asp Val Leu Arg Lys Lys Glu Met Glu Ser Gly Pro Lys Ala Ser
 65 70 75 80
 His Gly Tyr Gly Gly Arg Phe Gly Val Glu Arg Asp Arg Met Asp Lys
 85 90 95
 Ser Ala Val Gly His Glu Tyr Val Ala Glu Val Glu Lys His Ser Ser
 100 105 110
 Gln Thr Asp Ala Ala Lys Gly Phe Gly Gly Lys Tyr Gly Val Glu Arg
 115 120 125
 Asp Arg Ala Asp Lys Ser Ala Val Gly Phe Asp Tyr Lys Gly Glu Val
 130 135 140
 Glu Lys His Thr Ser Gln Lys Asp Tyr Ser Arg Gly Phe Gly Gly Arg
 145 150 155 160
 Tyr Gly Val Glu Lys Asp Lys Trp Asp Lys Ala Ala Leu Gly Tyr Asp
 165 170 175

Tyr Lys Gly Glu Thr Glu Lys His Glu Ser Gln Arg Asp Tyr Ala Lys
 180 185 190
 Gly Phe Gly Gly Gln Tyr Gly Ile Gln Lys Asp Arg Val Asp Lys Ser
 195 200 205
 Ala Val Gly Phe Asn Glu Met Glu Ala Pro Thr Thr Ala Tyr Lys Lys
 210 215 220
 Thr Thr Pro Ile Glu Ala Ala Ser Ser Gly Ala Arg Gly Leu Lys Ala
 225 230 235 240
 Lys Phe Glu Ser Met Ala Glu Glu Lys Arg Lys Arg Glu Glu Glu Glu
 245 250 255
 Lys Ala Gln Gln Val Ala Arg Arg Gln Gln Glu Arg Lys Ala Val Thr
 260 265 270
 Lys Arg Ser Pro Glu Ala Pro Gln Pro Val Ile Ala Met Glu Glu Pro
 275 280 285
 Ala Val Pro Ala Pro Leu Pro Lys Lys Ile Ser Ser Glu Ala Trp Pro
 290 295 300
 Pro Val Gly Thr Pro Pro Ser Ser Glu Ser Glu Pro Val Arg Thr Ser
 305 310 315 320
 Arg Glu His Pro Val Pro Leu Leu Pro Ile Arg Gln Thr Leu Pro Glu
 325 330 335
 Asp Asn Glu Glu Pro Pro Ala Leu Pro Pro Arg Thr Leu Glu Gly Leu
 340 345 350
 Gln Val Glu Glu Glu Pro Val Tyr Glu Ala Glu Pro Glu Pro Glu Pro
 355 360 365
 Glu Pro Glu Pro Glu Pro Glu Asn Asp Tyr Glu Asp Val Glu Glu Met
 370 375 380
 Asp Arg His Glu Gln Glu Asp Glu Pro Glu Gly Asp Tyr Glu Glu Val
 385 390 395 400
 Leu Glu Pro Glu Asp Ser Ser Phe Ser Ser Ala Leu Ala Gly Ser Ser
 405 410 415
 Gly Cys Pro Ala Gly Ala Gly Ala Gly Ala Val Ala Leu Gly Ile Ser
 420 425 430
 Ala Val Ala Leu Tyr Asp Tyr Gln Gly Glu Gly Ser Asp Glu Leu Ser
 435 440 445
 Phe Asp Pro Asp Asp Val Ile Thr Asp Ile Glu Met Val Asp Glu Gly
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 Trp Trp Arg Gly Arg Cys His Gly His Phe Gly Leu Phe Pro Ala Asn
 465 470 475 480

Tyr Val Lys Leu Leu Glu
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<210> 8
<211> 1353
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)..(1353)
<223> LAP cDNA Open reading frame

<220>
<221> misc_feature
<222> (1186)..(1189)
<223> LAP cDNA translation codon stop

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gcaagaactt ttccagataa aaaggaacgt gaagaaatac agactttaaa acagcaaata 180
gcagattttac gggaagattt gaaaagaaag gaaaccaaatac ggtcaagtac acacagccgt 240
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gtgatggaaa gattccgact ggatgcctgg aagagagcag aagccataga gagcagcctc 360
gagggtggaga agaaggacaa gcttgccaac acatctgttc gatttcaaaa cagtcagatt 420
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gatcatgaag taacagtaac tgacttttta tgttaaaaaa tgtacattta ctgtggattc 1260
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gtggcatctt catttttata ttctttgaaa tgc 1353

<210> 9
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic peptide

<220>
<221> misc-feature
<222> (1)..(17)
<223> LAP derived peptide, contains LAP epitope to raise
specific LAP antibodies

<400> 9

Ser Pro Arg Glu Pro Leu Glu Pro Leu Asn Phe Pro Asp Pro Glu Tyr
1 5 10 15

Lys

<210> 10

<211> 152

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
fusion protein

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Lys Lys Tyr Gln Gln Val Asp Glu Glu Phe Leu Arg Ser Asp His Pro
20 25 30

Ala Ile Leu Arg Ser Gln Ala Arg Leu Pro Gly Phe His Gly Leu Arg
35 40 45

Ser Pro Asp Thr Ser Ser Val Leu Tyr Thr Val Gln Pro Asn Glu Gly
50 55 60

Asp Asn Asp Tyr Ile Ile Pro Leu Pro Asp Pro Lys Pro Glu Val Ala
65 70 75 80

Asp Glu Gly Pro Leu Glu Gly Ser Pro Ser Leu Ala Ser Ser Thr Leu
85 90 95

Asn Glu Val Asn Thr Ser Ser Thr Ile Ser Cys Asp Ser Pro Leu Glu
100 105 110

Pro Gln Asp Glu Pro Pro Glu Pro Gln Leu Glu Leu Gln Val Glu Pro
115 120 125

Glu Pro Glu Leu Glu Gln Leu Pro Asp Ser Gly Cys Pro Ala Pro Arg
130 135 140

Ala Glu Ala Glu Asp Ser Phe Leu
145 150